What Is Claimed Is:

1. A driving apparatus for a liquid crystal display device, comprising:

a liquid crystal display panel having a plurality of data lines and gate lines arranged in a matrix configuration;

a data driver for supplying video data to the data lines;

a gate driver for supplying gate pulses to the gate lines; and

a timing controller for controlling polarity of the video data by supplying a polarity inversion signal to the data driver and controlling a timing of the data driver and the gate driver according to a number of horizontal synchronization signals supplied during a data blanking period,

wherein a plurality of the polarity inversion signals are different from each other.

2. The driving apparatus according to claim 1, wherein the polarity of the video data supplied to the liquid crystal display panel is inverted for each of two adjacent pixel cells.

3. The driving apparatus according to claim 1, wherein the data blanking period includes a vertical back porch period spanning from an end of a vertical synchronization signal to a starting point of data enable signals.

4. The driving apparatus according to claim 1, wherein the timing controller comprises:

a polarity inversion signal generator for generating a first polarity inversion signal having a first phase and a second polarity inversion signal having a second phase different from the first phase;

a counting part for counting the number of horizontal synchronization signals supplied during the data blanking period;

a determining part for providing a determining result corresponding to whether the number of the horizontal synchronization signals supplied during the data blanking period is one of an odd-number of times and an even-number of times in accordance with the number counted by the counting part;

a selector for supplying one of the first and second polarity inversion signals from the polarity inversion signal generator according to the determining result of the determining part to the data driver; and

a reset driver for generating a reset signal for resetting the polarity inversion signal generator, on a frame-by-frame basis, the detector, the counting part, and the determining part.

5. The driving apparatus according to claim 4, wherein the polarity inversion signal generator comprises:

a polarity signal generator for generating a polarity signal based on the horizontal synchronization signals;

a first polarity inversion signal generator for providing non-inverted and inverted signals by generating the first polarity inversion signal based on the polarity signal;

a polarity inversion selection signal generator for generating a polarity inversion selection signal on a frame-by-frame basis for each frame based on a vertical synchronization signal;

a multiplexer for supplying to the selector by selecting one of the non-inverted and the inverted first polarity inversion signals provided from the first polarity inversion signal generator in response to the polarity inversion selection signal; and

a second polarity inversion signal generator for supplying to the selector by generating the first polarity inversion signal supplied from the multiplexer and generating the second polarity inversion signal based on the polarity signal.

6. The driving apparatus according to claim 5, wherein the second polarity inversion signal generator includes an XOR gate for performing an Exclusive-OR logic operation on the first polarity inversion signal and the polarity signal, and for generating the second polarity inversion signal.

7. The driving apparatus according to claim 4, wherein the counting part comprises:

a start signal generator for generating a counting start signal on a frame-by-frame basis; and

a plurality of counters for counting the number of the horizontal synchronization signals in response to the start signal.

8. The driving apparatus according to claim 4, wherein the determining part generates a selection signal to select one of the first and second polarity inversion signals in the selector when an input signal received from the counting part is one of a first and second logic values.

9. The driving apparatus according to claim 4, wherein the polarity of the first polarity inversion signal is inverted by two horizontal synchronization signals and the second polarity inversion signal is delayed by one horizontal synchronization signal.

10. A driving method of a liquid crystal display device comprising a liquid crystal display panel having a plurality of data lines and gate lines arranged in a matrix configuration, a data driver for supplying video data to the data lines, and a gate driver for supplying gate pulses to the gate lines, the driving method comprising the steps of:

generating first and second polarity inversion signals different from each other according to a number of horizontal synchronization signals supplied during a data blanking period; and

controlling a polarity of the video data by supplying the first and the second polarity inversion signals to the data driver.

11. The driving method according to claim 10, wherein the polarity of the first polarity inversion signal is inverted by two horizontal synchronization signal units

and the second polarity inversion signal is delayed by one horizontal synchronization signal unit.

12. The driving method according to claim 10, wherein the polarity of video data supplied to the liquid crystal display panel is inverted by two adjacent pixel cells.

13. The driving method according to claim 10, wherein the data blanking period includes a vertical back porch period spanning from an end of a vertical synchronization signal to a start point of data enable signals.

14. The driving method according to claim 10, wherein the step of generating the first and the second polarity inversion signals comprises:

generating a polarity signal based on the horizontal synchronization signals;

generating a polarity inversion selection signal based on a frame-by-frame basis based on a vertical synchronization signal;

generating a non-inverted first polarity inversion signal and an inverted first polarity inversion signal based on the polarity signal;

selecting one of the non-inverted and inverted first polarity inversion signals in response to the polarity inversion selection signal; and

generating the second polarity inversion signal base on the first polarity inversion signal and the polarity signal.

15. The driving method according to claim 14, wherein the step of generating the second polarity inversion signal includes performing on Exclusive-OR logic operation of the first polarity inversion signal and the polarity signal.

16. The driving method according to claim 10, wherein the step of controlling the video data polarity comprises:

generating a counting start signal for each frame unit;

counting the number of the horizontal synchronization signals in response to the counting start signal;

determining a determining result based on whether the number of horizontal synchronization signals supplied during the data blanking period is one of an odd-number of times or an even-number of times according to the counted number; and

supplying one of the first and the second polarity inversion signals according to the determining result to the data driver.

17. The driving method according to claim 10, wherein the number of horizontal synchronization signals supplied during the data blanking period is an odd-number of times and the video data polarity is controlled by the second polarity inversion signal.

18. The driving method according to claim 10, wherein the number of horizontal synchronization signals supplied during the data blanking period is an even-number of times and the video data polarity is controlled by the first polarity inversion signal.

19. The driving method according to claim 10, wherein the step of generating the first and the second polarity inversion signals and the step of controlling the video data polarity are reset for each frame.